

Having thus described the preferred embodiment, the invention is now claimed to be:

1. A door and latch assembly for use on an electric arc engine welder, the door and latch assembly comprising:

5 a door mounted on an associated arc engine welder housing, the door movable between a door open position wherein an associated opening on the associated housing is accessible and a door closed position wherein the door covers the associated opening;

a latch pivotally mounted on the door, the latch movable between a latch closed position wherein the latch locks the door in the door closed position and a latch open position wherein the door is movable toward the door open position; and

10 a locking device on the door, the locking device locking the latch in the latch closed position when the locking device is enabled and allowing the latch to move from the latch closed position toward the latch open position when the locking device is disabled.

2. The door and latch assembly of claim 1 wherein the locking device includes:

a lock attaching structure positioned adjacent the latch; and

5 a lock releasably secured to the attaching structure when the locking device is enabled to obstruct movement of the latch from the latch closed position toward the latch open position and released from the attaching structure when the locking device is disabled.

3. The door and latch assembly of claim 2 wherein the lock attaching structure is a tab extending from the door and having a throughhole for receiving an arm of the lock.

4. A door and latch assembly for use on an electric arc engine welder, the door and latch assembly comprising:

a door mounted on an associated arc engine welder housing, the door movable between a door open position wherein an associated opening on the associated housing is accessible and a door closed position wherein the door closes the associated opening;

a latch rotatably mounted on the door and including a latch biasing member and a housing engagement portion, the latch biasing member urging the latch to rotate in a latch first direction, the housing engagement portion limiting movement of the door from the door closed position to the door open position;

a latch trigger rotatably mounted on the door and including a latch trigger biasing member and a door engaging portion, the latch trigger biasing member urging the latch trigger to rotate in a latch trigger first direction, the door engaging portion limiting movement of the latch trigger in the latch trigger first direction, the latch trigger engaging the latch and limiting movement of the latch in the latch first direction, the latch trigger movable in a latch trigger second direction against the urging of the latch trigger biasing member when a sufficient force is applied to the latch trigger whereby the latch trigger disengages the latch and allows movement of the latch in the latch first direction; and

a locking device connected to the door limiting movement of the latch in the latch first direction, the locking device capable of being disabled whereby the locking device allows movement of the latch in the latch first direction, when the locking device is disabled and the latch trigger is disengaged from the latch the latch biasing member moves the latch in the latch first direction such that the housing engagement portion allows movement of the door from the door closed position to the door open position.

5. An electric arc engine welder comprising:

a housing having a cavity therein;

a housing opening defined by the housing and connected to the cavity;

a door mounted to the housing adjacent the housing opening, the door movable between a door closed position wherein the door closes the housing opening and a door open position wherein the cavity is accessible through the opening;

a latch pivotally mounted on the door, the latch movable between a latch closed position wherein the latch locks the door in the door closed position and a latch open position wherein the door is movable toward the door open position; and

10 a locking device adjacent the latch, the locking device locking the latch in the latch closed position when the locking device is enabled and allowing the latch to move from the latch closed position toward the latch open position when the locking device is disabled.

6. The electric arc engine welder of claim 5 wherein the locking device includes:

a tab extending upwardly from the door and having a throughhole; and

5 a lock inserted through the tab throughhole when the locking device is enabled to obstruct movement of the latch from the latch closed position toward the latch open position and removed from the tab throughhole when the locking device is disabled.

7. The electric arc engine welder of claim 5 further including:

a latch trigger pivotally mounted on the door, the latch trigger movable between a latch trigger first position wherein the latch trigger maintains the latch in the latch closed position and a latch trigger second position wherein the latch is allowed to move from
5 the latch closed position to the latch open position.

8. The electric arc engine welder of claim 7 further including:

a latch spring urging the latch toward the latch open position; and

a latch trigger spring urging the latch trigger toward the latch trigger first position, an urging of the latch trigger spring generally greater than an urging of the latch spring.

9. The electric arc engine welder of claim 8 wherein the latch spring moves the latch from the latch closed position to the latch open position when the latch trigger is in the latch trigger second position and the locking device is disabled.

10. The electric arc engine welder of claim 8 wherein the latch trigger engages the latch to obstruct movement thereof when the latch trigger is in the latch trigger first position.

11. The electric arc engine welder of claim 5 wherein the latch includes a housing engagement portion that engages the housing when the latch is in the latch closed position thereby locking the door in the door closed position.

12. A door and latch assembly comprising:

a door operatively connected to a housing for providing access into the housing when the door is moved to a door open position;

5 a latch pivotally mounted on the door, the latch movable between a latch closed position and a latch open position;

a latch trigger pivotally mounted on the door, the latch trigger movable between a latch trigger first position wherein the latch trigger maintains the latch in the latch closed position and a latch trigger second position wherein the latch is allowed to move from the latch closed position to the latch open position; and

10 a locking device adjacent the latch for obstructing movement of the latch when the locking device is enabled and preventing the latch from moving to the latch open position from the latch closed position.

13. The door and latch assembly of claim 12 wherein the lock device includes:

a tab extending upwardly on the door adjacent the latch assembly;

a hole defined through the tab; and

5 a lock received through the hole when the locking device is enabled to obstruct movement of the latch and prevent the latch from moving to the open position from the closed position, the lock selectively removable from the tab for disabling the locking device.

14. The door and latch assembly of claim 13 further including:
a latch trigger biasing member urging the latch trigger toward the latch trigger first position; and
a latch biasing member urging the latch toward the latch open position.

15. The door and latch assembly of claim 14 wherein the latch includes an engaging portion that is urged into the latch trigger when the latch is in the latch closed position.

16. The door and latch assembly of claim 14 wherein the latch trigger is movable to the latch trigger second position by application of a force on the latch trigger sufficient to overcome the urging of the latch trigger biasing member.

17. The door and latch assembly of claim 14 wherein the latch trigger biasing member and the latch biasing member are a pair of torsion springs.

18. The door and latch assembly of claim 14 wherein the latch includes a housing engaging portion for engaging the housing when the latch is in the latch closed position thereby preventing the door from opening.

19. The door and latch assembly of claim 18 wherein the housing includes a housing member that extends between the door and the door engaging portion to limit pivotal movement of the door when the latch is in the latch closed position and the housing engaging portion engages the housing member.

20. The door and latch assembly of claim 14 wherein the latch trigger includes a door engaging portion that is urged into the door by the latch trigger biasing member when the latch trigger is in the latch trigger first position, an engagement between the door engaging portion and the door limits movement of the latch trigger in the latch trigger first position in a direction opposite the latch trigger second position.

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21. A latch assembly comprising:

a latch adapted for pivotal movement about a first pivot pin and including a latch engagement portion, the latch movable from a latch closed position to a latch open position;

5 a latch trigger adapted for pivotal movement about a second pivot pin and including a latch trigger engagement portion for selectively engaging the latch engagement portion; the latch trigger movable between a latch trigger first position wherein the latch trigger engagement portion engages the latch engagement portion and a latch trigger second position wherein the latch trigger engagement portion is
10 disengaged from the latch engagement portion, the latch trigger urging the latch toward the latch closed position when the latch trigger engagement portion engages the latch engagement portion; and

a locking device for selectively blocking movement of the latch from the latch closed position to the latch open position when the locking device is enabled.

22. The latch assembly of claim 21 further including:

a latch trigger biasing member mounted about the second pivot pin for urging the latch trigger toward the latch trigger first position.

23. The latch assembly of claim 22 wherein the latch trigger biasing member is a torsion spring.

24. The latch assembly of claim 21 further including:

a latch biasing member mounted about the second pivot pin for urging the latch toward the latch open position.

25. The latch assembly of claim 24 wherein the latch biasing member is a torsion spring.

26. The latch assembly of claim 24 wherein the latch trigger normally urges the latch toward the latch closed position when the trigger engagement portion engages

the latch engagement portion overcoming the urging of the latch biasing member urging the latch toward the latch open position.

27. The latch assembly of claim 21 wherein the locking device includes:

a tab defining a throughhole located adjacent the latch; and

a lock having an arm extending through the throughhole and releasably locked to the tab, the lock obstructing movement of the latch from the latch closed position to the

5 latch open position due to the proximity of the tab to the latch.